UNIT 2 BENCHMARK

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **UNIT ASSESSMENT ALIGNMENT GUIDE** | | | | | |
| **Learning Goal #** | **Learning Goal** | **Aligned Item #’s** | **Points Correct** | **Points Possible** | **Grade**  (%) |
| **SPI 1.3** | **Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems.** | **5, 10, 18** |  | **3** |  |
| **CFU 1.9** | **Identify and use properties of the real numbers (including commutative, associative, distributive, inverse, identity element, closure, reflexive, symmetric, transitive, operation properties of equality).** | **6, 16** |  | **2** |  |
| **SPI 2.3** | **Describe and/or order a given set of real numbers including both rational and irrational numbers.** | **1, 2, 13** |  | **3** |  |
| **CFU 3.3** | **Justify correct results of algebraic procedures using extension of properties of real numbers to algebraic expressions** | **3, 15** |  | **2** |  |
| **SPI 1.2** | **Write an equation symbolically to express a contextual problem.** | **4, 9, 14, 21, 24** |  | **5** |  |
| **SPI 3.5** | **Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.** | **8, 11, 12, 17, 20, 23, 25** |  | **7** |  |
| **SPI 4.1** | **Develop and apply strategies to estimate the area of any shape on a plane grid.** | **7, 19, 22** |  | **3** |  |
| ***TOTAL:*** | | |  | **25** |  |

1) Which is an irrational number?

A)

B) 0.5353…

C) 3.14

D) -

2) Which shows the numbers ordered from greatest to least?

A) , 1, , 1.9

B) , , 1, 1.9

C) 1.9, 1, ,

D) , , 1, 1.9

3) What is the value of the expression when a = -4 and c = -2

+ ac3

A) -20

B) 34

C) -14

D) 514

4) *Write an equation to express the following statement:*

Five more than a number is equal to negative seven.

A) 5 + n = -7

B) 5n = -7

C) n + 5 = -7

D) 5 – n = -7

5) *Simplify:* 10a – 3(b – 5) + 8b + 3(2 – 3a)

A) 19a + 11b + 21

B) a + 11b + 21

C) 19a + 5b + 21

D) a + 5b + 21

6) Maritza wants to buy a car that costs $10,500 before a 15% discount. She

knows that she can find the cost after the discount, in dollars, by evaluating

the expression 10500 – 10500(0.15). She thinks that she can calculate the

same cost by evaluating 10500(1 – 0.15). What property did Maritza use to

justify that these two expressions represent the same cost after the discount?

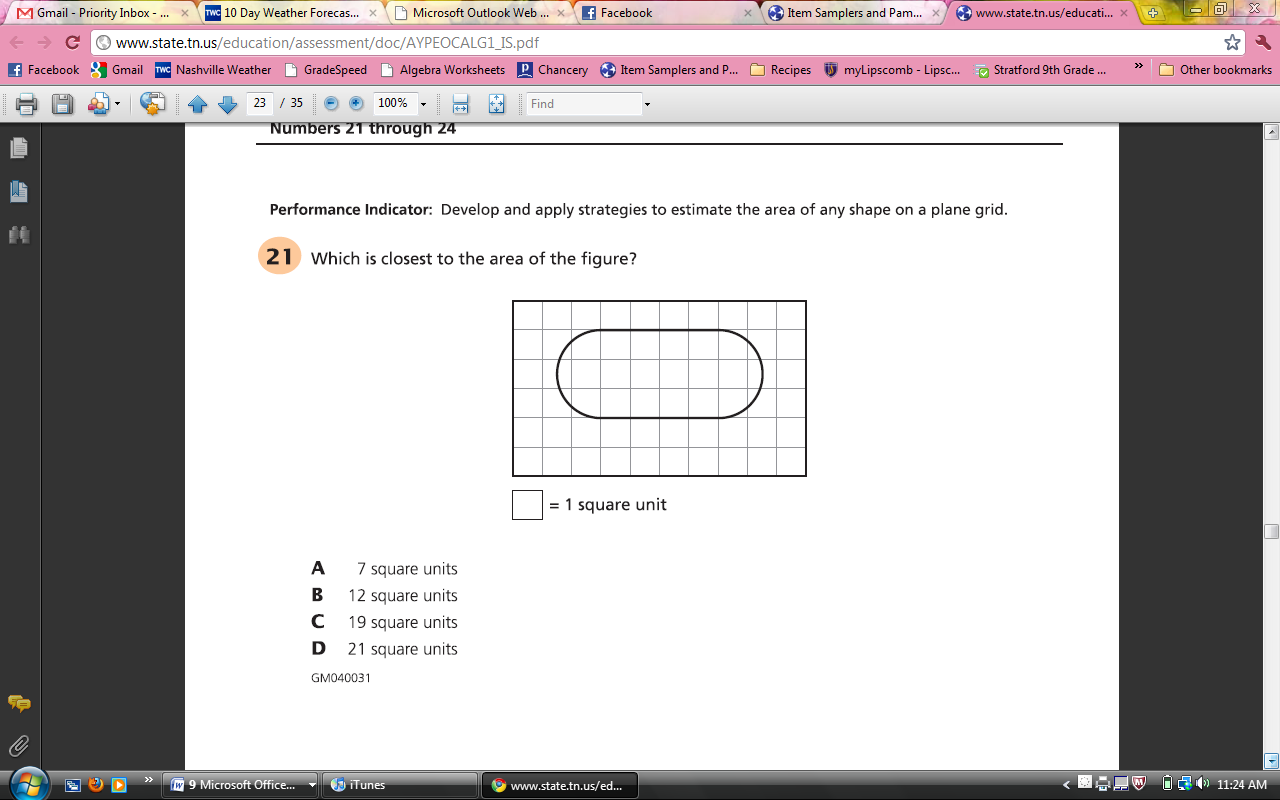
A) Associative Property

B) Commutative Property

C) Distributive Property

D) Subtraction Property of Equality

7) Which is closest to the area of the figure?



A) 7 square units

B) 12 square units

C) 19 square units

D) 21 square units

8) *Solve:* 7 = 3x – 2

A) x = 3

B) x = 12

C) x = 13.3

D) x = 24

9) *Write an equation to express the following statement:*

The quotient of twice a number and 5 is 17.

A) 2n(5) = 17

B) 2n/5 = 17

C) 5/2n = 17

D) 2(n/5) = 17

10) Find the area of the shape below:

4

x – 5

A) 4x – 5

B) 4x

C) x – 20

D) 4x – 20

11) *Solve:* 6n – 2 = n + 13

A) n = 3

B) n = -2

C) n = 2

D) none of these

12) *Solve:*  0.3(3a – 2) = -0.6

A) a = -6

B) a = 6

C) a = 0

D) a = 9

13) Which is correctly ordered from least to greatest?

A) -14/5 , - π, - 4.98, -

B) - 4.98, - π, - , -14/5

C) -14/5 , - , - π, - 4.98

D) - 4.98, - , - π, -14/5

14) Best Buy is having a one day sale on all of its games. A video game costs

half the cost of a computer game. If *v* represents the cost of a video game,

and *c* represents the cost of a computer game, which is an equation for the

cost of a video game?

A) v = 2c

B) v = c/2

C) v = c + ½

D) v = c – 2

15) What is the value of the expression when m = 7 and n = 2/3?

2

+

A) 84

B) 42.1

C) 9.34

D) 49

16) Antario goes shopping on the tax holiday. He finds a jacket he wants to buy

for $60. Because it is a tax holiday, this means he will not have to pay any

sales tax on his new jacket. He believes this means that the cost of the jacket,

$60, and the cost of the jacket with sales tax $60 + $0 are equivalent. Which

property did he use to prove this?

A) Commutative Property

B) Associative Property

C) Distributive Property

D) Identity Property

17) What are the solutions to the equation below?

|-3b + 3| = 6

A) 1, -3

B) -1, 3

C) -1, -3

D) 1, 3

18) *Simplify:* -3x2 – 2xy + x 2 + x(y + 6)

A) none of these

B) -2x2 – xy + 6

C) 4x2 – xy + 6x

D) 4x2 + 3xy + 6

19) Estimate the area of the figure below:

A) 10

B) 13

C) 19

D) 25

20) What is the solution set for the equation below?

|2m + 3| = 9

A) {-9, 9}

B) {-6, 3}

C) {-3, 3}

D) {-3, 6}

21) Jon and Zach both work for the same lawn company. Because Jon has not

been working at the company as long as Zach, Jon earns seven dollars an hour

less than Zach. Which is an equation for the amount of money Jon earns?

A) j = z + 7

B) j = 7 – z

C) j = 7j – z

D) j = z – 7

22) Estimate the area of the figure:

A) 15

B) 20

C) 25

D) 30

23) *Solve:* 4(y – 1) = 2(y+ 7)

A) y = 5

B) y = 9

C) y = 18

D) y = 36

24) An ice cream shop charges $2.25 for a small scoop of ice cream and $3.25 for

large scoop of ice cream. The shop has a fixed cost of $75 for each day it is

open. If *S* represents the number of small scoops of ice cream sold in a day

and *L* represents the number of large scoops of ice cream sold in a day, which

equation can be used to calculate the shop’s daily profit, *P*.

A) P = 75 – 2.25S + 3.25L

B) P = 3.25S + 2.25S – 75

C) P = 2.25S + 3.25L – 75

D) P = 2.25S = 3.25L + 75

25) What are the solutions to the equation below?

|2y + 5| – 2 = 7

A) 2, 7

B) -2, -7

C) 2, -7

D) -2, 7

26-30)Choose a learning goal/standards from the front page and write how you would explain to a new student how to solve each problem. Don’t forget each step! (If you need more room, use a separate piece of paper.) Then create your own problem.

Standard: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Problem#: \_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_My new problem:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

31-35) Choose a different learning goal/standard from the front page and write how you would explain to a new student how to solve each problem. Don’t forget each step! (If you need more room, use a separate piece of paper.) Then create your own problem.

Standard: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Problem#: \_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

My New Problem:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_